

# Action-packed Accomplishment

## STS-87 astronauts return home with coffers full of scientific data, scrapbooks full of photographs

STS-87 astronauts returned to welcoming friends, family members and co-workers on Earth in December with a wealth of scientific information and a scrapbook full of photographs.

*Columbia* and its crew concluded the 16-day science mission on Dec. 5, which included an unplanned but dramatic retrieval of the Spartan satellite.

"It was an action-packed flight," Commander Kevin Kregel said at the Ellington Field homecoming ceremony. "We had a little more action than we anticipated, but with a lot of help from folks here on the ground we managed to take a lemon and make lemonade out of it."

Data was gathered around the clock by a number of investigations in support of STS-87's primary experiment package, the United States Microgravity Payload-4.

"Just about all the customers except one were extremely happy with the science that they got," Kregel said. "We did a great space walk, first to capture a satellite which I think is pretty spectacular. If it had been an unmanned vehicle, any kind of problem, whether technical or procedural, it would have been gone. It would have been junk. We managed to pick up the satellite and bring it back so it will fly another day."

"We did a space walk to look at tools we're going to use to build a space station. We were very fortunate to get two of them because on the first one we found a significant problem on the crane. Instead of having the folks figure out how to make it happen when they're building the space station, Winston (Scott) and Takao (Doi) went out the door again and figured out how we're going to make it happen."

On the second space walk, the pair also tested a JSC designed and built

free-flying video satellite called AER-Cam Sprint, which was maneuvered from the aft flight deck, and provided a God's-eye view of activities in the payload bay.

"That was a homegrown project, done on a fairly tight budget and you really hit it out of the ballpark," Kregel said. "Anybody who reads the paper and looked at the damage that the Mir had, if they had one of those Sprint things, before they sent folks out the door they could have assessed that damage."

Top to bottom, left to right:

1) On *Columbia's* mid-deck, the STS-87 crew poses for the traditional in-flight portrait. In front, from left, are Pilot Steve Lindsey, Mission Specialists Takao Doi of Japan and Winston Scott. In back, from left, are Commander Kevin Kregel, Mission Specialist Kalpana Chawla and Payload Specialist Leonid Kadenyuk of the Ukraine.

2) Scott, left, and Doi (partially obscured by shadows), await the right opportunity to grab onto the Spartan satellite.

3) Backdropped over Africa, Doi tests a 156-pound crane designed to aid space walkers in building the International Space Station.

4) Astronauts Lindsey and Chawla check on an experiment in the mid-deck glove box.

5) Doi waves at fellow crew members during one of the space walks.

6) Scott is backdropped against a blue "blanket" of ocean water.

7) On the starboard side of *Columbia's* flight deck, Lindsey appears fully occupied with laptops to support flight operations.

8) The U.S. Microgravity Payload mission's cargo is picture of *Columbia's* cargo bay.

9) Chawla operates *Columbia's* robot arm from the aft flight deck during operations with Spartan. □



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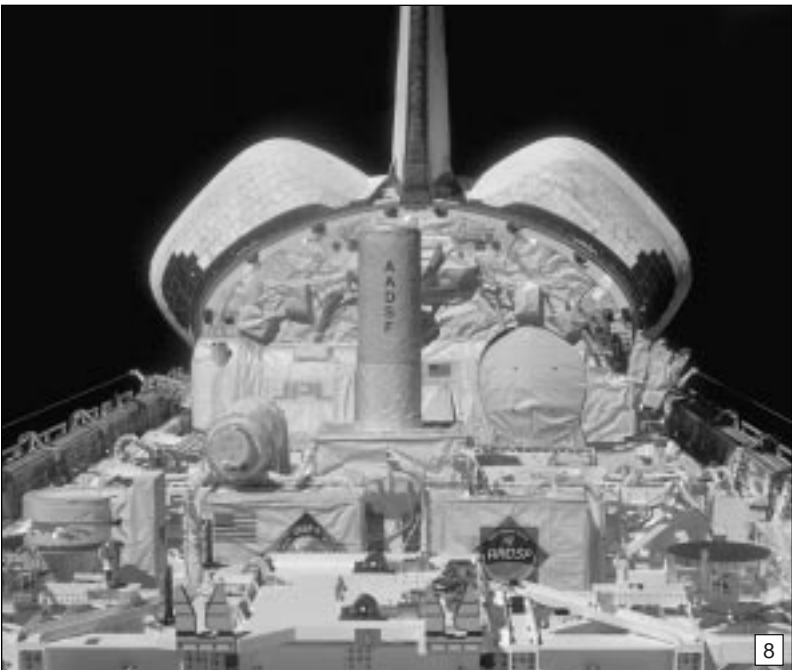
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